

## PATENT ABSTRACTS OF JAPAN

Considered  
8/8/05  
Jew

(11) Publication number : 07-175641

(43) Date of publication of application : 14.07.1995

(51) Int.Cl.

G06F 9/06

G06F 9/06

(21) Application number : 05-318824

(71) Applicant : NEC CORP  
NEC SOFTWARE LTD

(22) Date of filing : 20.12.1993

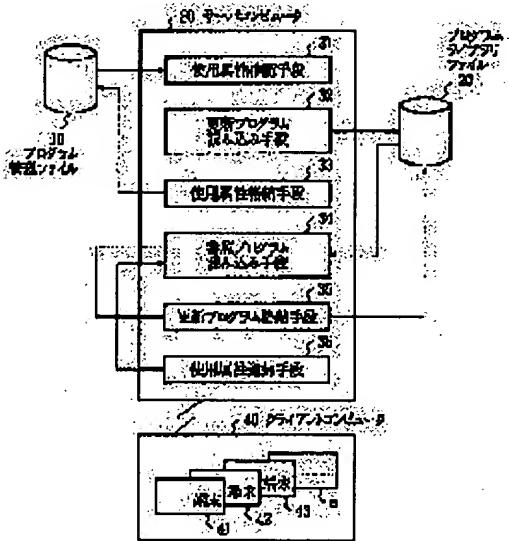
(72) Inventor : TERADA KAZUYO  
OGINO TAKAKO

**(54) DISTRIBUTED PROGRAM DEVELOPMENT INTEGRATION UPDATE MANAGING SYSTEM**

**(57) Abstract:**

**PURPOSE:** To prevent simultaneous update from being generated when performing distributed program development and to acquire the latest program as an update object at all times.

**CONSTITUTION:** Information of program under the processing of a program at a client and the latest information of the program after the end of processing are registered on a program library file 20, and those kinds of information are transmitted from the respective clients to a server computer 30 at need. At the server computer 30, the result of the decision of latest version of the program and the discrimination of the validity of the reference of the program for the existent program required to be processed is returned to a client computer 40.



**LEGAL STATUS**

[Date of request for examination] 31.01.1996

[Date of sending the examiner's decision of rejection] 21.03.2000

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office

## \* NOTICES \*

**JPO and NCIP are not responsible for any  
damages caused by the use of this translation.**

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**CLAIMS****[Claim(s)]**

[Claim 1] In the program development of the client-server format constituted by the server computer and two or more client computers The program management file which stores the use attribute at the time of a user updating or referring to a program, The program library file which stores the program used as the candidate for development, A use attribute check means to read the use attribute in connection with the renewal of a program, or reference from a program management file, and to check it in a server computer, An updating program reading means to read the program used as the candidate for updating from a program library file, and to transmit to a client computer, A use attribute storing means to store the operating condition of an updating program in a program management file at coincidence, An updating program storing means to store in a program library file the program which updating completed with the client computer, A reference program reading means to read a reference program from a program library file, and to transmit to a client computer to the program reference demand from a client computer, The renewal management method of distributed program development integration characterized by having a notice means of a use attribute to transmit the use attribute of a program management file to a client computer by the demand from a user, and to display.

---

[Translation done.]

## \* NOTICES \*

JPO and NCIP are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

## DETAILED DESCRIPTION

---

### [Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the renewal management method of distributed program development integration which performs exact management especially at the time of updating, and efficient use of a program about the renewal management method of distributed program development integration.

[0002]

[Description of the Prior Art] When performing program development conventionally, according to a demand of an implementer, reference of the existing program, such as correction, and updating can carry out to arbitration.

[0003]

[Problem(s) to be Solved by the Invention] In the conventional distributed program development, since the program updated according to a demand of a user was called, there was a trouble that the contents which it was going to update first will be replaced from the user's contents updated later if two or more users are going to update the same program to coincidence. Moreover, there is also a problem of being unable to give all demands of only reference at the time of updating activity initiation in the case of a program library or the method of guarding access to the target program, either, but barring efficient employment. In view of the above-mentioned point, the purpose of this invention manages a use attribute called the renewal of a program or reference of a user unitary to a program management file, prevents nullification of updating, and is to offer the renewal management method of distributed program development integration which realizes the increase in efficiency of reference.

[0004]

[Means for Solving the Problem] In the program development of the client-server format that the renewal management method of distributed program development integration of this invention is constituted by a server computer and two or more client computers The program library file which stores the program used as the program management file which stores the use attribute at the time of a user updating or referring to a program, and the candidate for development, A use attribute check means to read the use attribute in connection with the renewal of a program, or reference from a program management file, and to check it in a server computer, An updating program reading means to read the program used as the candidate for updating from a program library file, and to transmit to a client computer, A use attribute storing means to store the operating condition of an updating program in a program management file at coincidence, An updating program storing means to store in a program library file the program which updating completed with the client computer, A reference program reading means to read a reference program from a program library file, and to transmit to a client computer to the program reference demand from a client computer, It has a notice means of a use attribute to transmit the use attribute of a program management file to a client computer by the demand from a user, and to display.

[0005]

[Example] Hereafter, this invention is explained with reference to a drawing.

[0006] Drawing 1 shows the use attribute in a program management file [ in / in the whole block diagram and drawing 2 which show one example of this invention / one example of this invention ], and drawing 3 , drawing 4 , and drawing 5 show the flow chart of each processing in one example of this invention.

[0007] It is the renewal management method of program development integration of the client-server format that one example of this invention is constituted by the server computer 30 and two or more client computers 40 in drawing 1 . The program management file 10 which stores the use attribute at the time of a user updating or referring to a program, The program library file 20 which stores the program used as the candidate for development is included. A use attribute check means 31 for the server computer 30 to read the use attribute in connection with the renewal of a program, or

reference from the program management file 10, and to check, An updating program reading means 32 to read the program used as the candidate for updating from the program library file 20, and to transmit to a client computer 40, A use attribute storing means 33 to store an updating program operating condition in the program management file 10 at coincidence, An updating program storing means 35 to store in the program library file 20 the program which updating completed with the client computer 40, A reference program reading means 34 to read a reference program from the program library file 20, and to transmit to a client computer 40 to the program reference demand from a client computer 40, It has a notice means 36 of a use attribute to transmit the use attribute of the program management file 10 to a client computer 40 by the demand from a user, and to display.

[0008] In drawing 2 , the program library name 101, a program name 102, updating/reference partition 103, and the use client 104 are stored and saved as a use attribute at the program management file 10.

[0009] Next, an update process is shown in drawing 3 . In drawing 3 , if the through notice of the terminal 41 is given when a user wants to update A program, the use attribute check means 31 will read the program management file 10, and will check that it is under an update process. If updating is possible, the renewal program of -ed stored in the program library file 20 will be read from the updating program reading means 32. In that case, the information "it is read for updating of the program current and A, and is under use at a terminal 41" is saved as a use attribute by the use attribute storing means 33 at program name and updating / reference partition / use client in the program management file 10, respectively. When it is going to be parallel to this and other users try to update A program from a terminal 42, other users are informed of the use attribute saved at the program management file 10 by the notice means 36 of a use attribute. While the program which updating completed at the terminal 41 is stored in the program library file 20 by the updating program storing means 35, the use attribute of the program management file 10 is reset. Thus, exclusion cannot start that it is in the condition already read from the client (in this case, terminal 41) 40 for updating of a program, and it cannot read from other clients (terminal 42). Then, as for other users using a terminal 42, reading of it for updating becomes impossible until the update information of the program management file 10 becomes in addition to updating.

[0010] Next, reference processing is shown in drawing 4 . In drawing 4 , when other users try to refer to A program from a terminal 42, other users are informed of a use attribute like the time of updating by the notice means 36 of a use attribute, but since the exclusion of updating cannot be touched in reference, reading for reference is carried out. This decision is made by the use attribute check means 31. At this time, the reference program reading means 34 reads an object program from the program library file 20, and transmits to a terminal 42. As a result of referring to, even if it is incidentally judged that updating is required, reading for updating which newly declared updating is needed.

[0011] It is also the same as when updating and reference are reverse, and when reading for reference is performed previously, since exclusion does not start, reading for updating is possible. Moreover, when a user wants to know only a use attribute, as shown in drawing 5 , a user is informed of an attribute in use by the notice means of a use attribute.

[0012]

[Effect of the Invention] It can judge in advance that it will not refer to if this program is working, and is effective in the ability to prevent useless activities, such as redo of correction, at the same time the thing of the number of the latest editions is always called when referring to the existing program of this invention as explained above.

---

[Translation done.]

**\* NOTICES \***

**JPO and NCIP are not responsible for any  
damages caused by the use of this translation.**

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**TECHNICAL FIELD**

**[Industrial Application]** This invention relates to the renewal management method of distributed program development integration which performs exact management especially at the time of updating, and efficient use of a program about the renewal management method of distributed program development integration.

---

[Translation done.]

**\* NOTICES \***

**JPO and NCIPPI are not responsible for any  
damages caused by the use of this translation.**

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**PRIOR ART**

[Description of the Prior Art] When performing program development conventionally, according to a demand of an implementer, reference of the existing program, such as correction, and updating can carry out to arbitration.

---

[Translation done.]

**\* NOTICES \***

**JPO and NCIPPI are not responsible for any  
damages caused by the use of this translation.**

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**EFFECT OF THE INVENTION**

---

**[Effect of the Invention]** It can judge in advance that it will not refer to if this program is working, and is effective in the ability to prevent useless activities, such as redo of correction, at the same time the thing of the number of the latest editions is always called when referring to the existing program of this invention as explained above.

---

[Translation done.]

## \* NOTICES \*

JPO and NCIPPI are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

## TECHNICAL PROBLEM

---

[Problem(s) to be Solved by the Invention] In the conventional distributed program development, since the program updated according to a demand of a user was called, there was a trouble that the contents which it was going to update first will be replaced from the user's contents updated later if two or more users are going to update the same program to coincidence. Moreover, there is also a problem of being unable to give all demands of only reference at the time of updating activity initiation in the case of a program library or the method of guarding access to the target program, either, but barring efficient employment. In view of the above-mentioned point, the purpose of this invention manages a use attribute called the renewal of a program or reference of a user unitary to a program management file, prevents nullification of updating, and is to offer the renewal management method of distributed program development integration which realizes the increase in efficiency of reference.

---

[Translation done.]

**\* NOTICES \***

**JPO and NCIPPI are not responsible for any  
damages caused by the use of this translation.**

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**MEANS**

[Means for Solving the Problem] In the program development of the client-server format that the renewal management method of distributed program development integration of this invention is constituted by a server computer and two or more client computers The program library file which stores the program used as the program management file which stores the use attribute at the time of a user updating or referring to a program, and the candidate for development, A use attribute check means to read the use attribute in connection with the renewal of a program, or reference from a program management file, and to check it in a server computer, An updating program reading means to read the program used as the candidate for updating from a program library file, and to transmit to a client computer, A use attribute storing means to store the operating condition of an updating program in a program management file at coincidence, An updating program storing means to store in a program library file the program which updating completed with the client computer, A reference program reading means to read a reference program from a program library file, and to transmit to a client computer to the program reference demand from a client computer, It has a notice means of a use attribute to transmit the use attribute of a program management file to a client computer by the demand from a user, and to display.

---

[Translation done.]

## \* NOTICES \*

JPO and NCIP are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

## EXAMPLE

[Example] Hereafter, this invention is explained with reference to a drawing.

[0006] Drawing 1 shows the use attribute in a program management file [ in / in the whole block diagram and drawing 2 which show one example of this invention / one example of this invention ], and drawing 3, drawing 4, and drawing 5 show the flow chart of each processing in one example of this invention.

[0007] It is the renewal management method of program development integration of the client-server format that one example of this invention is constituted by the server computer 30 and two or more client computers 40 in drawing 1. The program management file 10 which stores the use attribute at the time of a user updating or referring to a program, The program library file 20 which stores the program used as the candidate for development is included. A use attribute check means 31 for the server computer 30 to read the use attribute in connection with the renewal of a program, or reference from the program management file 10, and to check, An updating program reading means 32 to read the program used as the candidate for updating from the program library file 20, and to transmit to a client computer 40, A use attribute storing means 33 to store an updating program operating condition in the program management file 10 at coincidence, An updating program storing means 35 to store in the program library file 20 the program which updating completed with the client computer 40, A reference program reading means 34 to read a reference program from the program library file 20, and to transmit to a client computer 40 to the program reference demand from a client computer 40, It has a notice means 36 of a use attribute to transmit the use attribute of the program management file 10 to a client computer 40 by the demand from a user, and to display.

[0008] In drawing 2, the program library name 101, a program name 102, updating/reference partition 103, and the use client 104 are stored and saved as a use attribute at the program management file 10.

[0009] Next, an update process is shown in drawing 3. In drawing 3, if the through notice of the terminal 41 is given when a user wants to update A program, the use attribute check means 31 will read the program management file 10, and will check that it is under an update process. If updating is possible, the renewal program of -ed stored in the program library file 20 will be read from the updating program reading means 32. In that case, the information "it is read for updating of the program current and A, and is under use at a terminal 41" is saved as a use attribute by the use attribute storing means 33 at program name and updating / reference partition / use client in the program management file 10, respectively. When it is going to be parallel to this and other users try to update A program from a terminal 42, other users are informed of the use attribute saved at the program management file 10 by the notice means 36 of a use attribute. While the program which updating completed at the terminal 41 is stored in the program library file 20 by the updating program storing means 35, the use attribute of the program management file 10 is reset. Thus, exclusion cannot start that it is in the condition already read from the client (in this case, terminal 41) 40 for updating of a program, and it cannot read from other clients (terminal 42). Then, as for other users using a terminal 42, reading of it for updating becomes impossible until the update information of the program management file 10 becomes in addition to updating.

[0010] Next, reference processing is shown in drawing 4. In drawing 4, when other users try to refer to A program from a terminal 42, other users are informed of a use attribute like the time of updating by the notice means 36 of a use attribute, but since the exclusion of updating cannot be touched in reference, reading for reference is carried out. This decision is made by the use attribute check means 31. At this time, the reference program reading means 34 reads an object program from the program library file 20, and transmits to a terminal 42. As a result of referring to, even if it is incidentally judged that updating is required, reading for updating which newly declared updating is needed.

[0011] It is also the same as when updating and reference are reverse, and when reading for reference is performed previously, since exclusion does not start, reading for updating is possible. Moreover, when a user wants to know only a use attribute, as shown in drawing 5, a user is informed of an attribute in use by the notice means of a use attribute.

---

[Translation done.]

## \* NOTICES \*

JPO and NCIPPI are not responsible for any  
damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

## DESCRIPTION OF DRAWINGS

---

### [Brief Description of the Drawings]

[Drawing 1] It is the functional block diagram showing one example of this invention.

[Drawing 2] It is drawing showing the use attribute of a program management file.

[Drawing 3] It is the flow chart showing the update process in one example of this invention.

[Drawing 4] It is the flow chart showing the reference processing in one example of this invention.

[Drawing 5] It is the flow chart showing the notice processing of a use attribute in one example of this invention.

### [Description of Notations]

10 Program Management File

20 Program Library File

30 Server Computer

31 Use Attribute Check Means

32 Updating Program Reading Means

33 Use Attribute Storing Means

34 Reference Program Reading Means

35 Updating Program Storing Means

36 Notice Means of Use Attribute

40 Client Computer

---

[Translation done.]

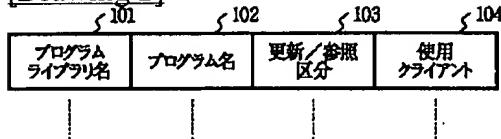
## \* NOTICES \*

JPO and NCIPPI are not responsible for any damages caused by the use of this translation.

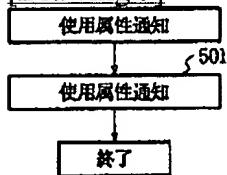
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

## DRAWINGS

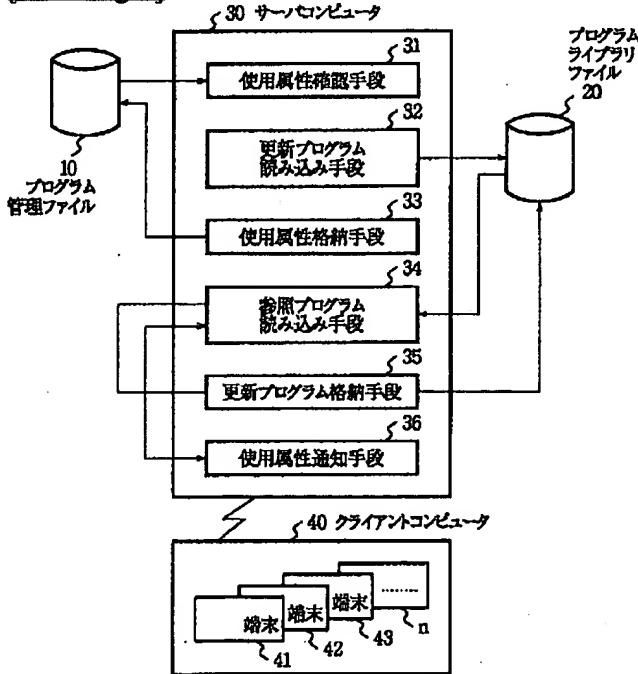
## [Drawing 2]



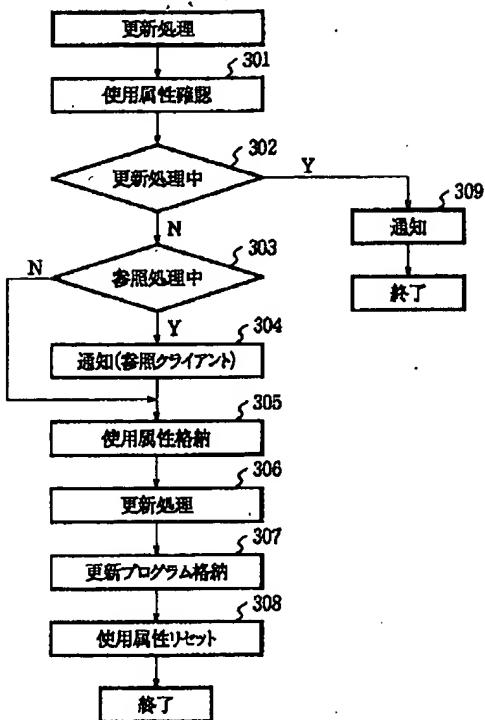
## [Drawing 5]



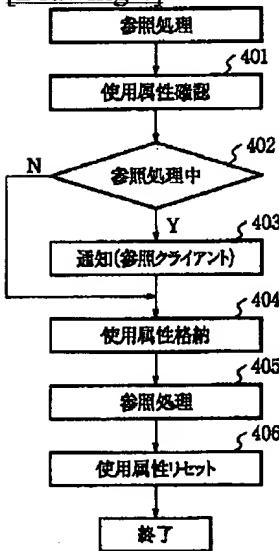
## [Drawing 1]



## [Drawing 3]



## [Drawing 4]



[Translation done.]